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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YEHUDA IVRI, LINDA R. DeYOUNG,
CHENG H. WU, MIRO S. CATER,
VIJAY KUMAR and MARKUS FLIERL

Appeal 2012-001256
Application 09/551,408
Technology Center 3700

Before JOHN C. KERINS, STEVEN D.A. McCARTHY and REMY J.
VANOPHEM, *Administrative Patent Judges*.

KERINS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Yehuda Ivri et al. (Appellants) seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 40-43. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

THE INVENTION

Appellants' invention is directed to a method of aerosolizing a liquid including a step of electroforming a vibrating aperture plate of palladium or a palladium alloy. Independent claim 40, reproduced below, is representative of the claimed subject matter:

40. A method of aerosolizing a liquid, comprising the steps of:

electroforming a vibratable aperture plate made of palladium or a palladium alloy, the aperture plate having a front surface and a rear surface, the palladium or palladium alloy aperture plate being electroformed to form a plurality of tapered conical-shaped apertures extending from the rear surface to the front surface, the plurality of apertures being tapered to narrow from the rear surface to the front surface, the aperture plate further being formed to have a dome shape, mounting the vibratable aperture plate upon a support member wherein substantially all of a vibratable portion of the aperture plate not directly mounted to the support member comprises the dome shape;

providing a fluid at the rear surface of the aperture plate; and

vibrating the aperture plate to eject the fluid through the plurality of tapered conical-shaped apertures.

THE REJECTIONS

The Examiner has rejected:

- (i) claim 40 as being unpatentable over Ivri (WO 97/07896, pub, Mar. 6, 1997) in view of Robertson (US 5,487,378, iss. Jan. 30, 1996); and
- (ii) claims 41-43 as being unpatentable over Ivri in view of Robertson and Abys (US 4,911,798, iss. Mar. 27, 1990).

ANALYSIS

Appellants maintain that neither the Ivri nor Robertson reference discloses the use of palladium or a palladium alloy for the components corresponding to the claimed vibratable aperture plate, and that the combination therefore does not establish that the subject matter of claim 40, which requires that this plate be electroformed from palladium or a palladium alloy, would have been obvious. Appeal Br. 5. The Examiner, in recognition of this lack of explicit disclosure, takes the position that Robertson discloses electroforming an aperture plate from a metal or metal alloy, such as nickel; that Appellants have admitted that palladium and palladium alloys are well known materials used in electroforming; and that persons skilled in the art, in recognition that nickel and palladium are in the same group on the Periodic Table, would turn to palladium and palladium alloys to electroform a vibratable aperture plate as a “simple substitution of one known element for another that are known to be used in electroplating and electroforming . . .”. Ans. 7. Appellants submit that such reasoning is based on speculation and hindsight. Reply Br. 2.

We agree with Appellants that the Examiner has not established that the use of palladium or a palladium alloy in place of the nickel disclosed by Robertson in electroforming an aperture plate would have been a simple substitution leading to predictable results. While the Examiner has presented reasoning as to the significance of nickel and palladium belonging to the same group in the Periodic Table, insofar as an electrodeposition process in general is concerned (Ans. 7), the Examiner points to nothing that suggests that an electroformed palladium or a palladium alloy would be suitable for use as a standalone vibratable aperture plate.

The Ivri reference notes that its thin shell member, which corresponds to the claimed vibratable aperture plate, is “preferably formed from a thin, rigid material . . . [and] will have a very high bending stiffness which will allow it to follow the vibratory motion of the carrier plate 26 as a rigid body.” Ivri, p. 20, ll. 17-23. Nothing in the Examiner’s reasoning asserts that the use of an electroformed palladium or palladium alloy would predictably achieve these properties.

Accordingly, the Examiner’s position on appeal as to why it would have been obvious to electroform the claimed vibratable aperture plate from palladium or palladium alloy lacks rational underpinnings. The rejection of claim 40 over Ivri and Robertson is not sustained.

The same lack of rational underpinnings undermines the rejection of dependent claims 41-43. While the Examiner includes the additional reference to Abys in the rejection, that reference discloses the use of palladium alloys only in a role as an electroplating, and not in the form of any standalone product produced in an electroforming process. This adds nothing to the level of predictability of electroformed palladium or

palladium alloy as a vibratable aperture plate. The rejection of claims 41-43 is thus not sustained.

CONCLUSION

The Examiner has not established, based on the evidence and reasoning of record, that it would have been obvious to electroform a vibratable aperture plate from palladium or a palladium alloy.

DECISION

The decision of the Examiner to reject claims 40-43 is reversed.

REVERSED

MP